

## ABSTRACT

There are provided an ultrasonic transducer (2) that performs transmission and/or reception of an ultrasonic wave and a propagation medium portion (6) that forms a propagation path of the ultrasonic wave. A density  $\rho_1$  and an acoustic velocity  $C_1$  of the propagation medium portion (6) and a density  $\rho_2$  and a sound velocity  $C_2$  of a fluid that stuffs a circumjacent space are appropriately set, and a propagation loss of the ultrasonic wave into the fluid is reduced to almost zero by refracting the ultrasonic wave at an appropriate angle.